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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,049	12/30/2003	David B. Olson	58907US002	6791
32692 7590 06/28/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER BERNSHTEYN, MICHAEL	
			ART UNIT 1713	PAPER NUMBER
			NOTIFICATION DATE 06/28/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/748,049

Applicant(s)

OLSON ET AL.

Examiner

Michael Bernshteyn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-24 is/are pending in the application.
- 4a) Of the above claim(s) 14-18 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-13, 19, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/15/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action follows a response filed on April 19, 2006. Claims 1 and 19 have been amended; claims 23 and 24 have been added; no claims have been cancelled.
2. The claims 1-7, 9-13, 19, 23 and 24 are active.

Specification

3. The amendment filed on November 20, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: there is no limitation in the specification including the examples (page 13, line 10 through page 16, line 3) indicating that the polymerizable composition is solvent-free.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.
5. Claims 1 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, for the rationale recited in paragraph 6 of Office Action dated on January 19, 2007.

Claim Rejections - 35 USC § 103

6. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.

7. Claims 1-7, 9-13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al. (U.S. Patent 6,261,700) in view of Williams et al. (U.S. Patent 5,626,800) and further in view of Martens (U. S. Patent 4,576,850), for the rationale recited in paragraph 8 of Office Action dated on January 19, 2007.

8. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al. (U.S. Patent 6,261,700) in view of Williams et al. (U.S. Patent 5,626,800) and Martens (U. S. Patent 4,576,850).

The disclosure of Olson, Williams and Martens's references resided in § 7 is incorporated herein by reference.

With regard to the limitations of instant claim 23, Williams discloses that the formation process of the microstructure bearing article, which is brightness enhancement film (col. 1, lines 14-15, col. 3, line 60) preferably includes the following steps: (a) preparing an oligomeric resin composition; (b) depositing the oligomeric resin composition onto a master negative microstructured molding surface in an amount barely sufficient to fill the cavities of the master; (c) filling the cavities by moving a bead of the composition between a preformed substrate and the master; and (d) curing the oligomeric composition (col. 3, lines 28-38).

For reasons of convenience, low capital investment, and production speed, the preferred method of polymerization is by irradiation with **ultraviolet** or visible light in the presence of photoinitiator (col. 4, lines 43-46).

With regard to the limitations of instant claim 24, Williams discloses that **polyethylene terephthalate** or polycarbonate film are preferable for use as a substrate in step (c) because the materials are economical, optically clear, and have good tensile strength ((col. 4, lines 60-63).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the formation process for brightness enhancement film with polyethylene terephthalate for use as a substrate in step (c), as taught by Williams in Olson's and Martens's solvent-free polymerizable composition for optical articles because of the following: 1) the above mentioned formation process of the microstructure bearing article that resists groove tip deformation when used as a brightness enhancement film (US'800, col. 2, lines 21-23); 2) polyethylene terephthalate base materials having good optical qualities and acceptable adhesion are preferred (US'800, col. 4, lines 60-63 and col. 5, lines 15-16), and thus to arrive at the subject matter of instant claims 23 and 24.

Response to Arguments

9. Applicant's arguments filed on April 19, 2007 have been fully considered but they are not persuasive.

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10. In response to the argument that the Declaration of David B. Olson clearly states on p. 2 (5) that, "For these reasons, a back-to-back comparison to a brightness enhancing film having prism prepared from a polymerizable composition having solvent cannot be made... ", and accordingly, the Applicant has provided proof that the inclusion of solvent is substantial material (page 1, 3rd paragraph), it is noted that the supporting statement should be in the specification, not in the Declaration.

Therefore, the Examiner keeps the objection of the specification (see paragraph 3 above).

11. The Applicant contend that Olson et al. teaches a multitude of polymerizable aromatic brominated (meth)acrylate compounds (column 4, line 9 to column 10, line 64) as well as a multitude of non-brominated compound (column 10, line 65 to column 13, line 14). However, Olson et al. does not teach the particular combination of the kinds and amounts of polymerizable compositions being claimed. Further, there is no motivation to select this particular combination based on the teachings of the references (pages 1-2, the bridging paragraph).

12. It is worth to mention that Olson discloses that the **most preferable first monomer** comprising a major portion of 2-propeonic acid, (1-methylethylidene)bis[(2,6-dibromo-4,1-phenylene)oxy(2-hydroxy-3,1-propanediyl)] ester as the reaction product of tetrabromobisphenol A diglycidyl ether and (meth) acrylic acid which is known under the trade designation '**RDX-51027**' and used in the table 1, examples 1 and 3 (col.26, lines 18-55). This component is readable as component a) in the instant claim 1. Other examples of polymerizable brominated compounds that can

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be useful in the binder precursor include but are not limited to tribromophenyl (meth)acrylate, pentabromophenyl (meth)acrylate, tribromophenylethyl (meth)acrylate, bromomethyl styrene, and brominated bisphenol A (meth)acrylate compounds (col. 8, lines 28-33). Tribromophenyl (meth)acrylate is readable as component b) in the instant claim 1.

Particularly preferred multifunctional ester (meth)acrylic acids can comprise a mixture of di-, tri-, and tetra(meth)acrylate esters of pentaerythritol (col. 12, line 39 through col. 13, line 13). Pentaerythritol tri(meth)acrylate is readable as component c) in the instant claim 1.

Olson discloses that while amounts outside of the following ranges may be useful, preferred binder precursors can include from about 20 to about 80 parts by weight (pbw) polymerizable brominated compound, e.g., aromatic, brominated (meth)acrylate compound, which is within the claimed range (col. 13, lines 19-22).

Olson discloses that the binder precursor can also contain polymerizable non-brominated compound in useful amounts, e.g., from about 20 to 80 pbw, preferably about 50 to 70 pbw, based on 100 pbw binder precursor, which is within the claimed range (col. 13, lines 31-33).

It is noted that the amount of the weight ratio of the components A and B is a result effective variable, and therefore, it is within the skill of those skilled in the art to find the optimum value of a result effective variable, as per *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382: "The normal desire of scientists or artisans to improve upon what is already

generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."

Therefore Olson discloses not only the major components, but also their amount, which is within the claimed range.

13. In response that Olson et al. is not an analogous art reference, it is noted that Olson's reference describes new polymerizable compositions for optically functional products such lenses, light fibers, optical screens and filters, reflective sheeting, and the like, the protection these products by coating and cured onto their structures (col. 1, lines 15-23). Therefore, this reference is definitely analogous art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Bernshteyn
Patent Examiner
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06/14/2007



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